

# **Honolulu High-Capacity Transit Corridor Project Safety and Security Oversight and Review Committee Meeting #4**

**Date:** September 25, 2008

## **Attendees:**

RTD – Harvey Berliner, Jurgen Sumann, Ken Caswell, Ken Banao  
HFD – Assistant Chief Eric Adams, Battalion Chief Edward Simeona  
HPD – Assistant Chief Kevin Lima, Captain Mark Ward, Mgt. Analyst Brandon Stone  
ESD – District Chief Norman Hahn  
DEM – District Preparedness Officer Ken Gilbert  
DTS – James Burke, Chief Public Transit Division  
DPP – Timothy Hiu, Acting Building Division Chief  
TEC – Mel Harano, Fire Protection Engr.  
Lea+Elliott - Chris Gambla  
GEC – Harry Saporta, Mike Becher, Dennis Haskell, Martin Hall, Paul Rothenbiller, Gulzar Ahmed, Jim Van Epps, Jim Dunn

Attendee e-mail and phone list attached.

**Agenda:** Attached

## **Minutes:**

- The meeting held at the HHCTC Project offices - Ali'i Place (1099 Alakea Street) 17<sup>th</sup> Floor
- Self introductions – Paul Rothenbiller, an industrial engineer with PB, introduced himself. Paul is responsible for the interior design/layout of the maintenance facility – arrangement of maintenance areas and equipment. Martin Hall, a civil engineer with PB, is responsible for the layout of the storage yard. Chris Gambla, with Lea+Elliott, is providing rail operations support.
- Within HPD, the rail project planning will now come under Assistant Chief Kevin Lima. The SSORC welcomes A/C Lima back to the committee.
- Minutes of the July March 27, 2008 meeting were reviewed. The following revisions were requested:
  - Honolulu EMS requested the elevators to be 6 feet wide by 8 feet deep.
- The PB design team request and received confirmation that the codes that will govern the rail transit system design include:

- International Building Code (IBC) – 2006 Edition
- NFPA 130 – 2007 Edition
- NFPA 1 – 2006 Edition, with amendments
- Uniform Plumbing Code – 2006 Edition
- Honolulu Fire Department requested NFPA 70, National Electrical Code – 2008 be added to the list, as it will be adopted soon.

### **Project Update**

- Harvey Berliner gave the project update.
- The Project Draft Environmental Impact Statement (DEIS) was reviewed by the FTA. The DEIS is being revised to incorporate the comments. The DEIS will be released for public comment sometime in October.

### **Honolulu Police Democratic and Republican National Conventions Detail**

- Assistant Chief Randy Macadangdang and Captain Mark Ward were fortunate to attend the Democratic National Convention in Denver, CO and the Republican National Convention in St. Paul, MN as security observers. During their detail, both Chief Macadangdang and Captain Ward met with the FBI, Secret Service, and local law enforcement to better understand the security coordination needs during a national security event, such as the political party conventions. Although the Chief and the Captain were not able to meet with the security personnel from the local transit agencies, they did have several opportunities to ride the light rail system, both in Minneapolis/St. Paul and Denver, and to observe the rail transit operations, particularly how the Proof of Payment (POP) system works. They remain skeptical of the POP system. However, they felt much more comfortable with the manner in which Blue Light Station locations will be identified. Their original concern was that the public would mistake the Blue Light Stations as a means to directly contact the Honolulu Police. They now believe the blue light as a location marker will not confuse the public.

### **Overview of Maintenance and Storage Facility (MSF)**

- Mike Becher, PB Systems Design Manager, Martin Hall, PB MSF design lead, and Paul Rothenbiller, PB Maintenance Facility designer, provided an overview of the shops and yard.
- The MSF will be located on 43± acres in the vicinity of the old Navy Drum site.
- The major facilities include the main shop building, maintenance-of-way (MOW) building, train wash, extensive interior cleaning station, traction power substation, and train control house.

- The perimeter of the facility will be fenced with access controlled at the main entrance by a 24-hour security guard.
- Access and circulation around the MSF is being designed to accommodate fire apparatus. A secondary entrance will be available, if needed, for emergency vehicle access. The entrance will remain locked at all times. A Knox box or other provisions will be made for emergency responder access.
- HPD stated that a minimum of 13'6" is required for their apparatus to clear overhead obstructions, such as the overpass near the main entrance.  
**ACTION: PB to verify the overpass clearance.**
- Crossing gates will protect crossings where pedestrians and motor vehicles cross automated tracks.
- HFD asked whether vehicles would be able to drive over the tracks. PB responded that all travelways will be paved where the tracks intersect the roadways.
- PB emphasized that familiarization training will be held with all emergency responders, HFD, HPD, and EMS prior to the Project becoming operational. Furthermore, emergency procedures will be developed with the agencies and drills will be held to test the procedures and ensure RTD are adequately trained.
- The Main Shop building spaces include:
  - Rail passenger vehicle inspection and repair
  - Parts storage
  - Staff offices
  - Operations Control Center
- The entire Maintenance and Storage Facility including the buildings and yard site will be designed to be LEEDS (silver) compliant.

#### Main Shop Repair/Inspection Area

- A paint room will be provided in a future stage of the Project, but not at this time.
- The train storage area will accommodate 80 vehicles initially and when expanded in the future 150 vehicles.
- A car mover will move the passenger vehicles in and out of the shop. A 750-VDC stinger system will be used to energize the on-board equipment.
- A material storage area will be provided for both hazardous and non-hazardous materials.
- The main shop layout includes 5 inspection/repair bays, a wheel truing track and wheel truing machine (for the re-rounding of the rail vehicle

wheels), overhead cranes and in-floor houses for raising rail vehicles for repair work.

- Support shops in the main shop include rail vehicle truck repair shop, air conditioning shop, air brake shop, electronics shop, and battery shop. The repair of wheels and axles, and rail vehicle traction motors will be outsourced.
- A roof-level platform will be available for gaining access to the rail vehicle roof.
- The truck repair shop will also have a truck wash for the cleaning of the rail vehicle trucks.
- Emergency eye wash/showers will be available in areas where employees may be exposed to corrosive chemicals.
- A public address system will be available in the shop.

#### Maintenance-of-Way Shop

- The MOW Shop will house a Carpentry Shop, Fabrication Shop, Machine Shop, Automotive/Truck Repair area, and other repair areas that will support maintenance of the train system infrastructure.

#### Rail Vehicle Storage Yard

- The storage yard is comprised of a Yard Tower, tracks on ballast, contact rails that supply power to the rail vehicles, train control house, and a dedicated traction power substation. All switches in the yard will be powered and controlled by the Yard Tower.
- Hostlers will be used to move the rail vehicles in the yard and in and out of the maintenance shop. Hostlers are employees who will manually operate the rail vehicles within the MSF.
- The Yard Tower will coordinate all rail movements in the yard through communications with the hostlers.

#### Operations Control Center (OCC)

- The OCC will monitor and control all train movements on the mainline.
- The OCC will be comprised of a Train Dispatcher, who will control trains movements, a Power and Facilities Dispatcher, who will control power to the trains by removing and restoring power as directed, Communications Dispatcher who would answer calls from passenger assistance and emergency telephones.
- Security workstations will also be available for monitoring the CCTV, access control, and intrusion detection system.

### Fire/Life Safety Provisions

- The main shop and other facilities will be equipped with fire detection and sprinkler systems
- A fire alarm panel will be located in both the OCC and security booth at the main entrance.
- A fire hydrant system will be provided throughout the MSF. Meetings will be held in the future with HFD to verify the location of the hydrants.  
**ACTION: PB to verify MSF hydrant locations with HFD.**
- Traction power disconnect switches will be located throughout the storage yard.

### Security Provisions

- The concepts of Crime Prevention through Environmental Design are being incorporated in the design, including lighting and landscaping.
- An access control system will control access to MSF facilities, including the OCC.
- An intrusion detection system will monitor unauthorized access to the traction power substation and train control house, the OCC, and storerooms.
- CCTV will monitor MSF entry points; yard perimeter and the yard in general; traction power substation, train control, and OCC entries.

### Codes and Standards

- Numerous codes and standards will govern the design of the MSF, including Hawaii OSHA (HIOSHA), Crane Manufacturers Association of America standards, American Railway Engineering and Maintenance-of-Way Association (AREMA) standards, IBC, NFPA, Institute of Electrical and Electronic Engineers (IEEE), American Public Transportation Association (APTA), American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI), Underwriters Laboratory (UL), Americans with Disabilities Act, and others.

### **Transit Station Design**

- Dennis Haskell, PB Lead Architect, provided an update on the station design.
- All stations will be an open design and will meet the design requirements of NFPA 101 Chapters 7 and 12, as modified by NFPA 130.

### Two Means of Egress

- A key requirement of NFPA 130, section 5.5.1.3, is that there must be two alternate means of egress. All stations will have a minimum of two means of egress. One means of egress will be the main stairway. The secondary

means of egress will be a set of emergency stairs at one end of the station platforms.

- NFPA 5.5.1.3.2 also states that the means of egress are permitted to converge
- The station design also satisfies the requirement (NFPA 130 5.5.6.6.1) that the maximum travel distance on the platform to a point at which a means of egress route leaves the platform does not exceed 100 m (300 ft). Each station platform will not exceed 300 feet in length.
- Three other tests for Means of Egress need to be satisfied under NFPA 130
  - Point of Safety
  - Common Path of Travel
  - Dead End

#### Point of Safety

- NFPA 3.3.33 states that a Point of Safety is an area that affords an adequate level of protection.
- The station concourse will be designated a Point of Safety for Type A and Type C stations, as both stations will have a concourse level. NFPA 5.5.6.2.1 states that a concourse is permitted to be defined as a Point of Safety if the station is an “open” design and if it is below the platform or if it is protected from the platform by distance or materials. The concourse will be located approximately 20 feet below the platform level and will be constructed of Type I non-combustible materials. Consequently, 5.5.6.2.1 is satisfied.
- HFD and Permit and Planning representatives, as well as other members of the SSORC, concurred with designating the concourse level as a Point of Safety.
- HFD asked if exit signage will be available. Dennis stated that signs will be available and will be illuminated, as required by NFPA 101.
- A concern was raised for persons with disabilities and for incapacitated persons who may accidentally fall into the trainway. A concern was also raised for persons who may attempt suicide. Saporta responded that an intrusion detection system would be in place to alert the Operations Control Center of the intrusion. Additionally, the CCTV system will permit the Control Center to observe the platform and respond appropriately when alerted to a possible intrusion into the trainway. Trains would be stopped until the situation was resolved.

#### Common Path of Travel

- NFPA 130 5.5.1.4 states that a “common path of travel” may not exceed 25 meters (82 feet). NFPA 130 3.3.34 defines the Common Path of Travel

as “that portion of exit access that must be traversed before two separate and distinct paths of travel to two exits are available.” Based on the conceptual designs, all stations meet the 25 meter requirement.

### Dead End

- Clarification was requested regarding “Dead Ends”. The pathways to the elevators will vary in length and be as long as 75 feet. The SSORC was asked whether the pathways to the elevators would be considered “Dead Ends”.
- A small canopy will be over the elevator entrance to protect patrons from rain. Approximately 1/3 of the platform level will be partially covered, as well, to protect patrons from the rain.
- NFPA 101 A.7.6 states that “a dead end exists where an occupant enters a corridor thinking there is an exit at the end and, finding none, is forced to retrace the path traveled to reach a choice of egress travel paths.”
- The IBC 1017.3 states “Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet in length: Exceptions: 3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.
- Both HFD and Permit and Planning stated that the “Dead End” requirement refers to enclosed corridors. Since the station is an “Open” design it was not evident if the definition was applicable, as it was open to view.
- They asked if it would be possible to widen the elevator pathways further, as this may resolve the issue. Haskell responded that this would be explored. **ACTION: PB to explore widening the pathways to the elevators.**
- Further discussion centered on the definition of “Corridor”. **ACTION: PB, HFD, and Permits and Planning are to research the definition of “Corridor” and its applicability to the Project.**

### **Recent Train Emergency Incidents**

- Harvey Berliner and Harry Saporta briefly discussed and showed news footage of three recent train incidents. Both Harvey and Harry emphasized that the Project’s operating environment and design are significantly different than the transit systems where the incidents occurred.
  - CTA Train Derailment – A Chicago Transit Authority (CTA) Green Line train derailed at an interlocking on May 28, 2008. 24 people were injured. As the train approached an interlocking (series of switches), a red signal was displayed, requiring the train to stop. The signal indicated that the switches were not properly aligned

and the train should not proceed. The train operator; however, overrode the stop requirement and entered the interlocking. 24 people were injured.

The Project transit system will be operated driverless. Consequently, operator errors will be eliminated from train operations. Additionally, an automatic train protection system will not permit the train to proceed through switches unless they are properly aligned for the train movement.

- Metrolink Train to Train Collision – On September 12, 2008 a Metrolink commuter train collided head on with a Union Pacific freight train in Chatsworth, CA. The accident occurred in a curved section of single track, where only one train is permitted at a time. The freight train was given permission to enter the single track territory by the train dispatcher. The Metrolink train was required to stop at a red signal and wait for the freight train to pass through; however, the engineer of the Metrolink train failed to do so. The accident resulted in 24 fatalities and hundreds of injuries.

The Project train control system will be vastly different. The Project is entirely dual track. All train movements will be monitored through an automatic train protection system. The system will ensure that trains are kept separated at all times. Should single track operations be required, the automatic train protection system will not allow two trains to occupy the single track territory at the same time.

- Seattle Monorail Rescue Due to Train Malfunction – The Seattle monorail system is an elevated trainway with no emergency walkway. Additionally, the rail vehicle's design does not permit coupling rail vehicles together. Due to a vehicle malfunction, the train lost propulsion power between stations stranding the passengers on-board. The Seattle Fire Department safely evacuated all passengers by means of an aerial ladder.

The Project's rail vehicles will permit several vehicles to be coupled together. In the event a train is disabled, another train can be brought to the disabled train and the disabled train moved to a station, where passengers may safely alight. If it is not possible to safely move the train with passengers aboard, passengers may be requested to alight to an emergency walkway and walk to an awaiting rescue train or to a passenger station. Specific procedures will be developed in coordination with HFD, which will describe evacuation options and processes.

## **Other Business**

- James Burke announced that a new bill was being introduced – a Transit Code of Conduct, similar to that adopted by King County (Seattle).



### **Next Steps**

- Continue discussion of station exiting requirements, specifically occupant load, exit capacity, and platform evacuation time.
- Meetings will be set up with HFD, HPD, and DPP to discuss the Fire/Life Safety and Safety and Security design criteria. Overviews of the criteria will be provided at the next SSORC meeting.
- Chief Gary Gee of the Bay Area Rapid Transit District (BART) will be attending the November SSORC meeting to discuss transit security and policing at BART. Chief Gee will also hold meetings with HPD to discuss a variety of policing issues.

**Next Meeting** – November 13, 2008. A meeting notice will be distributed a minimum of two weeks in advance.

**Honolulu Rail Transit Project  
Safety and Security Oversight and Review Committee (SSORC)  
Meeting #4  
Sept 25, 2008 - 1:30 pm  
Ali'i Place (1099 Alakea Street) 17<sup>th</sup> Floor  
Large Conference Room**

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| <b>I. Welcome</b>   | <b>Harvey Berliner</b>                   |
| <b>II. Introduction of new members</b>  | <b>Harvey Berliner</b>                   |
| <b>III. Adoption of July 17, 2008 Minutes</b>   | <b>Harvey Berliner<br/>Harry Saporta</b> |
| <b>IV. Project Update</b>   | <b>Harvey Berliner</b>                   |
| <b>V. Report on trips to Denver and Minneapolis</b>   | <b>Mark Ward</b>                         |
| <b>VI. Overview of Yard and Shop Facility</b>   | <b>Mike Becher<br/>Martin Hall</b>       |
| <b>VII. Station Design</b> <ul style="list-style-type: none"><li>• Common path of Travel</li><li>• Point of Safety</li><li>• Dead End Corridors</li></ul>   | <b>Dennis Haskell<br/>Harry Saporta</b>  |
| <b>VIII. Safety and Security Design Criteria</b> <ul style="list-style-type: none"><li>• Status</li><li>• Review of draft criteria</li></ul>  | <b>Harry Saporta</b>                     |
| <b>IX. Recent train incidents</b>   | <b>Harry Saporta</b>                     |
| <b>X. Action Item Log</b>   | <b>Harry Saporta</b>                     |
| <b>X. Other Issues</b> <ul style="list-style-type: none"><li>• BART Police Chief, Gary Gee, will be in Honolulu in November to meet with HPD and attend the SSORC meeting</li><li>• Making arrangements for a mainland Fire representative to be in Honolulu the beginning of 2009.</li></ul> | <b>Harvey Berliner</b>                   |
| <b>XI. Next Meeting – November 13, 2008</b>   |  |

**HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT  
SAFETY AND SECURITY OVERSIGHT AND REVIEW COMMITTEE ATTENDANCE SHEET  
MEETING No. 4 Sept. 25, 2008**

Organization	Name	Title	Phone No. (808 area code unless otherwise indicated)	Email Address	Initials
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RTD	Ken Banao	Planner	768-8352	kbanao@honolulu.gov	KB
RTD	Harvey Berliner	Chief, Facilities Engineering	768-6123	berliner@infraconsultllc.com	HVB
RTD	Jurgen Sumann	Chief, Systems Engineering	768-6166	sumann@infraconsultllc.com	JS
RTD	Ken Caswell	Chief Architect	768-6188	caswell@infraconsultllc.com	KWC
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DTS	James Burke	Public Transit Division Chief		jburke@honolulu.gov	JB
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GEC	Jim Dunn	Design Manager	694-3220	dunnj@pbworld.com	JD
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DEM	Ken Gilbert	Officer	723-8955	kgilbert@honolulu.gov	
DEM	Melvin Kaku	Director	723-8951	mkaku@honolulu.gov	

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SAFETY AND SECURITY OVERSIGHT AND REVIEW COMMITTEE ATTENDANCE SHEET  
MEETING No. 4 Sept. 25, 2008**

Organization	Name	Title	Phone No. (808 area code unless otherwise indicated)	Email Address	Initials
HFD	Eric L. Adams Jr.	Assistant Chief of Planning and Development	723-7106	eadams@honolulu.gov	EA
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HFD	Stephen Kishida	Fire Captain of Fire Prevention Bureau	523-4186	skishida@honolulu.gov	
HFD	Clint Nuuanu	Fire Captain of Fire Operations	723-7183	cnuuanu@honolulu.gov	
HFD	Sheldon Yasso	Fire Inspector	523-4186	syasso@honolulu.gov	SY
HPD	Kevin Lima	Asst. Chief	929-3355	klima@honolulu.gov	KL
HPD	Randy Macadangdang	Asst. Chief	529-3164	rmacadangdan@honolulu.gov	
HPD	Mark Ward	Captain	540-8116	mward@honolulu.gov	MW
HPD	Brandon J. Stone	Management Analyst	529-3644	istone@honolulu.gov	JS
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ESD	Norman Hahn	District Chief	690-2262	nhahn@honolulu.gov	NH
ESD	Colin Wong	MICT	723-7809	cwong2@honolulu.gov	
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